

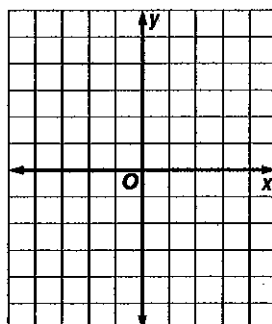
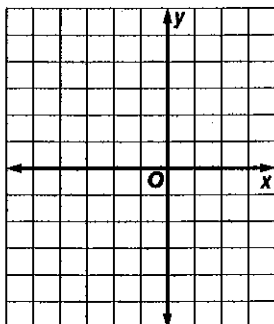
Algebra Chapter 4 Study Guide

- 1) Solve and graph the solution set for a linear equation when given the domain. (Lesson 4.4)
- 2) Determine whether an equation is linear. If so, write the equation in standard form. You will need to clear fractions and reduce to lowest terms by dividing by the greatest common factor. (Lesson 4.5)
- 3) Graph a linear equation by making a table. (Lesson 4.5)
- 4) Determine whether a relationship is a function when given a set of ordered pairs, equation, mapping, table or graph. (Lesson 4.6)
- 5) Find the value of a function when given an equation in function notation. (Lesson 4.6)
- 6) Write an equation for an arithmetic sequence using the formula $a_1 + (n - 1)d$ where a_1 = the first term, n = the n th term, and d = the common difference. (Lesson 4.7)
- 7) Find the given term in a sequence. (Lesson 4.7)

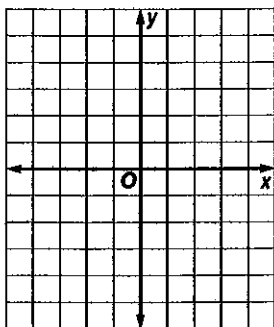
Extra Practice

Solve each equation for the given domain. Graph the solution set.

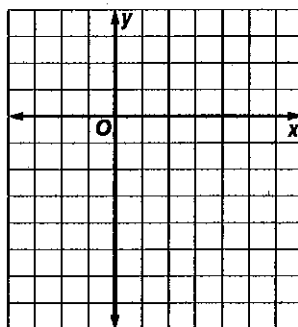
13. $y = 2x + 5$ for $x = \{-5, -4, -2, -1, 0\}$ 14. $y = 2x - 3$ for $x = \{-1, 1, 2, 3, 4\}$



15. $2x + y = 1$ for $x = \{-2, -1, 0, 2, 3\}$



16. $2x - 2y = 6$ for $x = \{-3, -1, 3, 4, 6\}$



4-5 Practice

Graphing Linear Equations

Determine whether each equation is a linear equation. If so, write the equation in standard form.

1. $4xy + 2y = 9$

2. $8x - 3y = 6 - 4x$

3. $7x + y + 3 = y$

4. $5 - 2y = 3x$

5. $4y + x = 9x$

6. $a + \frac{1}{5}b = 2$

7. $6x = 2y$

8. $\frac{x}{4} - \frac{y}{3} = 1$

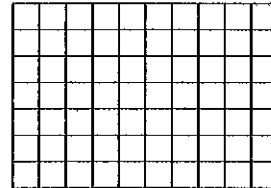
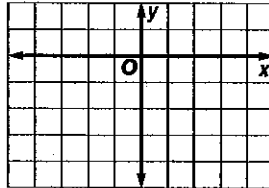
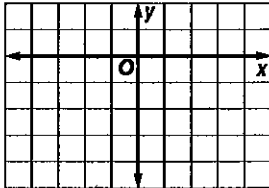
9. $\frac{5}{x} - \frac{2}{y} = 7$

Graph each equation.

10. $\frac{1}{2}x - y = 2$

11. $5x - 2y = 7$

12. $1.5x + 3y = 9$



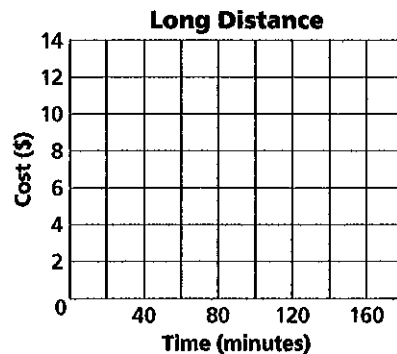
COMMUNICATIONS For Exercises 13–15, use the following information.

A telephone company charges \$4.95 per month for long distance calls plus \$0.05 per minute. The monthly cost c of long distance calls can be described by the equation $c = 0.05m + 4.95$, where m is the number of minutes.

13. Find the y -intercept of the graph of the equation.

14. Graph the equation.

15. If you talk 140 minutes, what is the monthly cost for long distance?

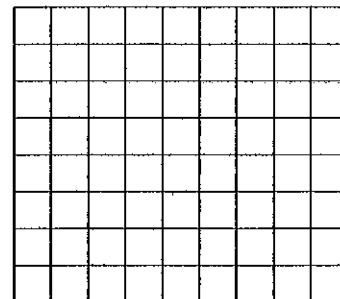


MARINE BIOLOGY For Exercises 16 and 17, use the following information.

Killer whales usually swim at a rate of 3.2–9.7 kilometers per hour, though they can travel up to 48.4 kilometers per hour. Suppose a migrating killer whale is swimming at an average rate of 4.5 kilometers per hour. The distance d the whale has traveled in t hours can be predicted by the equation $d = 4.5t$.

16. Graph the equation.

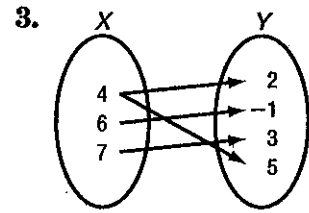
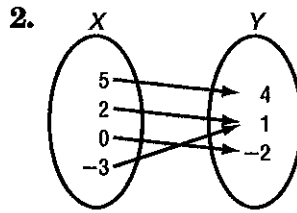
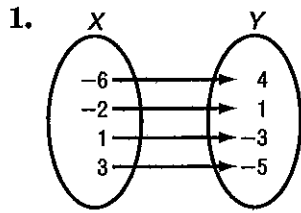
17. Use the graph to predict the time it takes the killer whale to travel 30 kilometers.



4-6 Skills Practice

Functions

Determine whether each relation is a function.



4.

x	y
4	-5
-1	-10
0	-9
1	-7
9	1

5.

x	y
2	7
5	-3
3	5
-4	-2
5	2

6.

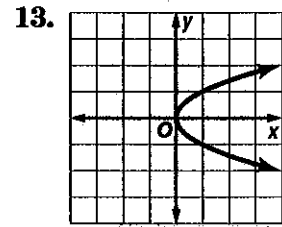
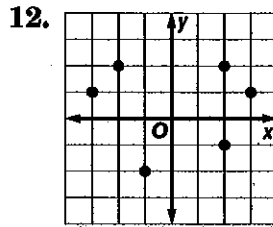
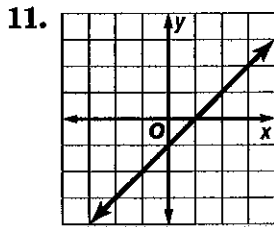
x	y
3	7
-1	1
1	0
3	5
7	3

7. $\{(2, 5), (4, -2), (3, 3), (5, 4), (-2, 5)\}$

8. $\{(6, -1), (-4, 2), (5, 2), (4, 6), (6, 5)\}$

9. $y = 2x - 5$

10. $y = 11$



If $f(x) = 3x + 2$ and $g(x) = x^2 - x$, find each value.

14. $f(4)$

15. $f(8)$

16. $f(-2)$

17. $g(2)$

18. $g(-3)$

19. $g(-6)$

20. $f(2) + 1$

21. $f(1) - 1$

22. $g(2) - 2$

23. $g(-1) + 4$

24. $f(x + 1)$

25. $g(3b)$

Write an equation for the n th term of the arithmetic sequence.

13. 1, 3, 5, 7, ...

14. -1, -4, -7, -10, ...

15. -4, -9, -14, -19, ...

Find the n th term of each arithmetic sequence described.

19. 8, 13, 18, 23, ... for $n = 17$

20. -10, -3, 4, 11, ... for $n = 12$

21. 12, 10, 8, 6, ... for $n = 16$

22. 12, 7, 2, -3, ... for $n = 25$

BANKING For Exercises 16 and 17, use the following information.

Chem deposited \$115.00 in a savings account. Each week thereafter, he deposits \$35.00 into the account.

16. Write a formula to find the total amount Chem has deposited for any particular number of weeks after his initial deposit.

17. How much has Chem deposited 30 weeks after his initial deposit?